

Amendments to the Claims

This listing of the claims will replace all prior versions and listing of claims in the application:

Claim 1 (original): A peptide which comprises a subsequence: SRFEVW
(SEQ ID NO: 22).

Claim 2 (original): A peptide in accordance with claim 1, comprising the formula: X_4 - X_3 - X_2 - X_1 - X_5 - X_6 , where
 X_1 is SRFEVW,
 X_2 is WI,
 X_3 is GIVRK,
 X_4 is EN,
 X_5 is PYL, and
 X_6 is KK,
wherein the peptide comprises X_1 and optionally at least one of X_2 , X_3 , X_4 , X_5 and X_6 , and if any of X_2 , X_3 , X_4 , X_5 and X_6 are present, the amino acids are identical in their respective positions to those in ENGIVRKWISRFEVWPYLKK (SEQ ID NO: 24)
as set forth in Figure 1B.

Claim 3 (original): A peptide of claim 1 which is up to 100 amino acids in length.

Claim 4 (original): A peptide of claim 1, wherein the peptide is at least 80% homologous with a portion of native *Zea mays* protein sequence as set forth in GenBank Accession Number 1498382, and said homology is over the entire length of the peptide; or,

wherein said peptide causes 50% bundled actin and inhibits actin depolymerization when polymerized in vitro with actin at a molar ratio of 100 to 1; or,

wherein the peptide is at least 80% homologous with a portion of native *Zea mays* protein sequence as set forth in GenBank Accession Number 1498382, and said homology is over the entire length of the peptide, and wherein said peptide causes actin bundling and inhibits actin depolymerization when polymerized in vitro with actin.

Claim 5 (original): A peptide having the sequence E-GI*---W-----W, where, I* means I or V, - means any amino acid, wherein said peptide causes actin bundling and inhibits actin depolymerization.

Claim 6 (original): A peptide in accordance with claim 5, comprising a sequence:

EH*GIV*R*-W-----V*W, where H* means H or a conservative substitution therefore, V* means V or a conservative substitution therefore, and R* means R or a conservative substitution therefore, and - means any amino acid, wherein said peptide causes actin bundling and inhibits actin depolymerization.

Claim 7 (original): A peptide in accordance with claim 6, wherein the peptide causes 50% bundled actin and inhibits actin depolymerization when polymerized in vitro with actin.

Claim 8 (original): A peptide in accordance with claim 7, wherein the peptide is polymerized with actin at a molar ratio of peptide to actin of at least 100:1.

Claim 9 (original): A peptide of claim 5, wherein the sequence comprises SEQ ID NO: 12.

Claim 10 (original): A peptide comprising at least 16 contiguous amino acids in accordance with the formula:

Gly-Ile-X₁-X₂-X₃-Trp-X₄-X₅-X₆-X₇-X₈-X₉-Trp-X₁₀-X₁₁-X₁₂

or a pharmaceutically acceptable salt thereof, wherein

X₁ is Ile, Val, or Leu;

X₂ is Arg, Lys, Asn, or Thr;

X₃ is Arg, Lys, Asn, or Asp;

X₄ is Ile, Asp, Asn, or Glu;

X₅ is Ser or Asp;

X₆ is Arg, Met, or Ala;

X₇ is Phe or Glu;

X₈ is Asp, Glu, Lys, Arg, or His;

X₉ is Val or Ile;

X₁₀ is Pro or His;

X₁₁ is Tyr or His; and

X₁₂ is Leu or Thr;

wherein the addition of said compound results in about 50% of bundled actin in a molar fraction of peptide to actin of at least 100 to 1.

Claim 11 (new): A method for causing actin bundling and inhibition of actin depolymerization in a cell comprising the step of delivering to said cell an effective amount of a peptide which comprises a subsequence: SRFEVW (SEQ ID NO: 22).

Claim 12 (new): The method of claim 11, wherein the peptide comprises at least 16 contiguous amino acids in accordance with the formula:

X_4 - X_3 - X_2 - X_1 - X_5 - X_6 , where

X_1 is SRFEVW,

X_2 is WI,

X_3 is GIVRK,

X_4 is EN,

X_5 is PYL, and

X_6 is KK,

wherein the peptide comprises X_1 and optionally at least one of X_2 , X_3 , X_4 , X_5 and X_6 , and if any of X_2 , X_3 , X_4 , X_5 and X_6 are present, the amino acids are identical in their respective positions to those in ENGIVRKWISRFEVWPYLKK (SEQ ID NO: 24) as set forth in Figure 1B.

Claim 13 (new): A method of inhibiting growth of cells, where the method comprises administering to the cells an amount of the peptide having the sequence E-GI*---W-----W, where, I* means I or V, - means any amino acid, wherein said peptide causes actin bundling and inhibits actin depolymerization.

Claim 14 (new): The method of claim 13, wherein said peptide comprising a sequence: EH*GIV*R*-W----- V* W, where H* means H or a conservative substitution therefore, V* means V or a conservative substitution therefore, and R* means R or a conservative substitution therefore, and - means any amino acid, wherein said peptide causes actin bundling and inhibits actin depolymerization.

Claim 15 (new): The method of claim 13, wherein said peptide is SEQ ID NO: 10 or SEQ ID NO: 12.

Claim 16 (new): The method of claim 13, wherein the administration of said peptide results in about 50% of bundled actin in a molar fraction of peptide to actin of at least 100 to 1.

Claim 17 (new): A polynucleotide sequence encoding a peptide of claim 5.

Claim 18 (new): A vector containing the polynucleotide of claim 17.

Claim 19 (new): A cell containing the vector of claim 18.